

REMARKS

Claims 1-26 are currently pending in this application. Claims 1-26 are rejected. Claims 1, 5, 15, 19, 23, 24, 25, and 26 are amended as discussed below. No new matter is added by this amendment.

Specification:

Paragraph [0036] is amended to correct some clerical errors. The corrections are believed to be immediately evident from the original text.

35 USC § 112 rejection:

Claims 1, 5, 15, 19, 23, 24, 25, and 26 are rejected because the expression “the security status” or “the first partition” lacked antecedent basis. The wording of the claims has been corrected, and this rejection is believed no longer to apply.

35 USC § 101 rejection:

Claims 23-26 are rejected as claiming subject matter that is not tangibly embodied so as to be executable. Claims 23-26 have been amended and are believed now to be proper under *In re Beauregard*. This rejection is believed no longer to apply.

35 U.S.C. § 102 rejections:

Claims 1-26 are rejected as anticipated by U.S. Patent No. 6,961,761 (Masuyama et al.)
The rejection is traversed.

The claims of the present application are concerned with a process for adding, removing, and transferring processor cells and other resources to and from partitions of a partitionable computer system, embodiments of which are described with reference to FIGS. 11A to 11C. These changes require changes to the configuration of routing devices that control traffic between cells.

The problem underlying the claimed processes and systems is to prevent a malicious or malfunctioning cell from attaching itself to, and interfering with, an operating partition. The solution presented by the present claims is to permit the cell that is being transferred to make the changes to the routing configuration, but only if the cell in question is in a "secure" state in which it is trusted not to make improper changes. The term "secure," and its antonym "unsecure," are defined in paragraph [0022] of the specification at page 5, lines 17-21. For ease of reading, the definition of "secure" and "unsecure" has been copied into the claims where appropriate. If the cell is initially "unsecure," claims 10-14 and 18 provide procedures for rendering the cell "secure" so that it can be permitted to update the routing configuration and attach itself to a partition.

Masuyama solves the same problem in a completely different way, by placing the routing tables in the Domain Configuration Unit 126 under exclusive control of an external server manager 160, and thus segregating them from malfunctions or malice in the operating domains, see col. 3, lines 31-35 and col. 5, lines 20-22. Masuyama neither discloses nor suggests the subject matter of the present claims.

The present claims, in contrast to Masuyama, do not require an external server manager, and allow cells to be added, subtracted, and transferred from within the partitionable system itself, without loss of security.

Referring to claims 1, 5, 15, 19, and 23-26, the office action cites the abstract of Masuyama as describing a method of adding an element to a partition. Masuyama's abstract does not mention adding to partitions. The abstract says that the external server manager can "control the domain partitioning and the routing tables" but does not explain further. Col. 5, lines 25-26 does mention adding CPU nodes and other elements to a partition, but only by

quiescing and reconfiguring the entire system under control of the external server manager, see col. 5, lines 33-36.

The examiner cites col. 5 of Masuyama as describing receiving an instruction to join a partition by the element, but that is not correct. In Masuyama, the instruction is received not by the joining element but by the external server manager 160. The syntax of some of the claims has been adjusted to make the significance of receiving “by the element” more immediately apparent. Support for the additional amendments to the “updating” clause of claim 1 is found in paragraph [0037] at page 12, lines 20-21 in combination with paragraph [0022] at page 5, lines 28-30 and paragraph [0025].

The office action cites col. 4, lines 1-6 of Masuyama as describing “determining the security status of the element.” That is not correct. First, the cited passage of Masuyama refers only to determining the status of a domain, not of an element being added to a domain. Second, the cited passage of Masuyama does not describe determining a security status, as that term is defined and used in the present application. Third, the cited passage of Masuyama relates to accessing the local domain registers within a domain. It does not form part of a process of adding, subtracting, or moving an element to or from domains.

The office action cites col. 5 of Masuyama as describing updating the routing table when the security status of an element is “secure” and transitioning the status of the element to “unsecure,” but no such description can be found. Masuyama’s system implicitly assumes that (applying the applicants’ definitions of “secure” and “unsecure”) the server manager 160 is always secure, and the operating domains are always unsecure.

Thus, Masuyama fails to disclose all the elements recited in claim 1, and claim 1 is novel over Masuyama. Further, there is nothing in Masuyama that would have made the method

recited in claim 1 obvious to a person of ordinary skill in the art. On the contrary, Masuyama teaches away from the present methods, by proposing an alternative and fundamentally different solution to the same problem.

The rejection stated in the office action does not address the language of independent claims 5, 15, 19, and 23-26. Those claims are apparently rejected by analogy to claim 1. Without prejudice to their individual merits, claims 5, 13, 15, 19, and 23-26 are deemed novel and non-obvious over Masuyama for at least the same reasons as claim 1.

Claims 2-4, 6-12, 14, 16-18, and 20-22 are dependent from claims 1, 5, 13, 15, and 19 and, without prejudice to their individual merits, are deemed to be novel and non-obvious over Masuyama for at least the same reasons as their respective base claims.

Referring to claims 2, 6, 16, and 20, the office action asserts that “Masuyama teaches receiving the instruction [to join the partition] from a processor of the partition [*see CPU 105 of Fig. 2*].” However, there is no indication in Masuyama that any of the CPUs 105 originates an instruction to add an additional processor to the domain. All such instructions appear to be issued by the “trusted human operator 170” who does not belong to any domain. For this reason also, claims 2, 6, 16, and 20 are deemed to be novel and non-obvious over Masuyama.

Referring to claims 4, 9, and 22, Fig. 4 of Masuyama (presumably the access fields 420, 425 of domain routing table 415) is cited as showing that “the determining comprises accessing a register.” However, Masuyama does not show that the state of the access fields 420, 425 is related to security status as that status is defined and used in the present application. As noted above, Masuyama treats the domains as always having what the present application defines as an “unsecure” state. The default configuration, explained at col. 4, line 51 to col. 5, line 13 is that only the external server manager has write access to the domain configuration registers and

routing tables, that each local domain has write access to its own local domain registers, and that every domain may have read access to all the registers. There is no suggestion that access could be dependent on a variable property of a domain, or could be defined for an individual element of a domain. Therefore, accessing Masuyama's access fields is not "determining [the security status of the element]" as that expression is used in claims 4, 9, and 22.

Referring to claims 10-11, 14, and 18, it is argued that Masuyama inherently teaches rebooting an element after removing it from a domain. It is respectfully pointed out that the standard for inherency is that the feature is "*necessarily* present in the thing described in the reference," *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999), cited at MPEP § 2112.IV, emphasis added. Masuyama quiesces the system when changing the domain configuration, col. 5, lines 29-33 and then releases the quiescing mode when the reconfiguration is complete, col. 5, lines 36-37, but there is no indication that rebooting is necessary. In addition, it is respectfully pointed out that the rejection of claim 14 is improper, because claim 14 is dependent from claim 13, and no ground of rejection of claim 13 is raised. Further, the office action does not even allege that Masuyama shows self-initialization by the element, as required by claims 11 and 14. If Masuyama's processors 105 were rebooted (and, as noted above, there is no reason to suppose that they are) then the rebooting would be commanded from the server manager 160 at about col. 5, line 33 or line 36, and would not be a self-initialization by the processors.

Referring to claim 12, the office action argues that Masuyama "teaches transitioning the element from an unsecure state to a secure state after the self-initialization." However, no such teaching can be found. As noted above, there is no teaching in Masuyama of self-initialization, and Masuyama treats the operating domains and processors as always unsecure.

For at least these reasons also, claims 2, 4, 6, 9, 10-14, 16, 18, 20, and 22 are deemed novel and non-obvious over Masuyama.

Conclusion

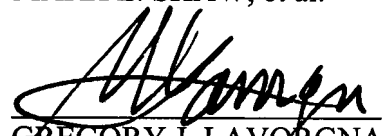
In view of the foregoing amendment and remarks, Applicants respectfully submit that claims 1-26 of the present application are in condition for allowance and a notice of allowance is respectfully requested.

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

Respectfully submitted,

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